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# DOD COMMITS TO Privatization

*The market for Department of Defense utilities has been evolving for seven years. It now appears to have finally emerged.*

By Michael C. Hargett

**T**he Defense Department (DOD) is getting out of the utility business. The department has committed to privatizing the utilities at DOD bases across the United States. The market for the utilities as assets and providers of services has been evolving during the past seven years under Defense Reform Initiatives based upon Section 2688 of Title 10, U.S. Code. Privatization of electric, water, wastewater and natural gas utilities is proceeding actively. Exceptions are provided for unique security, economic, or absence of interest in privatization.

The potential to own these systems and for long-term (50-year) utility service contracts are now available, and significant. Each military service is applying carefully planned programs by which they competitively select and transfer utility assets and operations to non-government entities.

## Privatization in General

Privatization is defined generally as the transfer to the

private sector of activities and functions that the federal government has historically conducted or performed. This definition applies to enterprises already owned by the federal government and to new projects that normally have been implemented by the federal government or the public sector. In effecting such transfers, four essential organization-related components are involved:

- Management responsibility,
- Assets and their operation and maintenance or the rights to use assets,
- Personnel, and
- Capital investments for upgrades, renewals and improvements.

The move to privatization by the federal government, including privatization of housing assets and service functions, is based on the premise that market forces (private industry) are superior to administrative directives (government bureaucracy); that the former govern economic activity and achieve or lead to greater efficiency.



Photo courtesy of Andriamir Associates

## Utility Privatization

Privatization of utilities at DOD installations is being considered to improve system economic performance, quality of services, availability of service, and enhancement of system performance and replacement. For the latter, some influence by capital investment needs to be present.

For most systems, privatization costs less and provides better services than do dedicated federal utility facilities. Specifically, it is clear that:

- Privatization produces better management of permanent programs by bringing sophisticated cost-cutting techniques to government facilities;
- Government personnel are freed from managing day-to-day utility operations and reduction in management is possible;
- Privatization provides specialized skills that are unavailable within a limited government environment and for which it would be too costly to sustain quality resources;
- Using private firms reduces capital outlays for facilities, equipment and training when new projects are developed or when replacement of utility infrastructure is needed.



Photo by John M. Cline

## DOD's Utility Privatization: Scope and Benefits

The major tenets of utility privatization by DOD involve more public-private sector partnerships, transfer of utility assets, more competition, and delivery of higher quality utility services.

The reform of utility services by DOD rests on the following:

- Adopting the best business practices for public utility services,
- Restructuring the utility services organizations at military installations (to allow the Pentagon — the military services — to focus on war-fighting missions),
- Streamlining through competition and innovative contracting of utility services,
- Eliminating unneeded infrastructure, and
- Transferring risk to non-DOD entities.

By incorporating non-DOD organizations into routine utility service at bases, the DOD anticipates cost savings. In addition, the quality of services is expected to improve with minimal risk to national defense interests — without interfering with the military's readiness or no interruption of the military's capability to perform its war-fighting missions.

The DOD lacks the resources by which it can meet future infrastructure repairs to its utility plants and thus continue to ensure the safe and reliable operation of those systems. System maintenance and repair accounts continue to be under funded. Infrastructure is aging and is going without the necessary improvements. Finally, both civilian and military manpower restrictions and downsizing have affected the reliability of the utilities at many bases.

Privatization through asset divestiture takes the burden off federal installations and places the responsibilities with a utility provider that is organized, staffed, financed and equipped to provide safe, reliable and environmentally compliant service.

## Partnering Utility Performance

A private partner can produce significant utility system savings for the DOD by providing greater technical skills, private sector experience, long-term stability, and the entrepreneurial mindset of non-government entities. It will also allow DOD to significantly save scarce dollars by injecting private capital into the utility infrastructure. A partnership will also enable DOD to join private industry in benefiting from efficiencies that accrue to aggressive utilities in unregulated environments.

The DOD can provide long-term opportunities to apply the technical, financial and operational resources of the private sector for efficient utility services. These non-DOD entities can then support the military bases with core capabilities in utility operations. Investments in infrastructure improvements and enhanced system capacity will then be recovered over the period of the long-term contract. **TIME**

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*The Department of Defense is strengthening its Utilities Privatization Program in consultation with various utility industry representatives.*

*Here are the key developments of this program.*

# DOD Powers Up

## PROGRESS IN PRIVATIZING

By Navy Capt. Rick Marrs, P.E., CEC, and Al Krachman

**S**afe, reliable energy supplies and utility services are essential to completing military missions and supporting the quality of life of military personnel and their families. However, after years of inadequate funding, the utility systems at many military installations do not meet industry standards. By taking advantage of the entrepreneurship, innovations, competition driven efficiencies, financing and economies of scale of the private sector, long-term partnerships with the utility industry will help address this challenge.

For nearly a decade, Department of Defense (DOD) leaders have sought to modernize the military's \$50 billion utilities infrastructure through privatization. In a recent memorandum from Deputy Secretary of Defense Paul Wolfowitz, the DOD reaffirmed its commitment to privatize all military utility systems, unless privatization is uneconomical or security needs require continued federal ownership. His memo set forth guidance for the military's Utilities Privatization Program (UPP), capping off a concerted effort to strengthen and revitalize privatization efforts.

To date, 47 DOD utility systems have been privatized using the authority of U.S. Code Title 10, Section 2688. Another 350 systems were privatized using other authorities, mostly at overseas locations. About 40 systems are deemed uneconomical for privatization due to the lack of market interest or an economic evaluation that demonstrates long-term benefits of continuing government ownership. As part of the early evaluations, 89 systems were exempted for security reasons.

More than 1,300 DOD utility systems will be evaluated for privatization before September 2005. Currently, some 900 utility systems are in solicitation for privatization and receipt of proposals on over 300 more is pending. Requests for Proposals (RFPs) for the remaining 400 utility systems are in development and will be released during the coming 18 months. The status of privatization acquisitions is available on the Web sites of the mil-

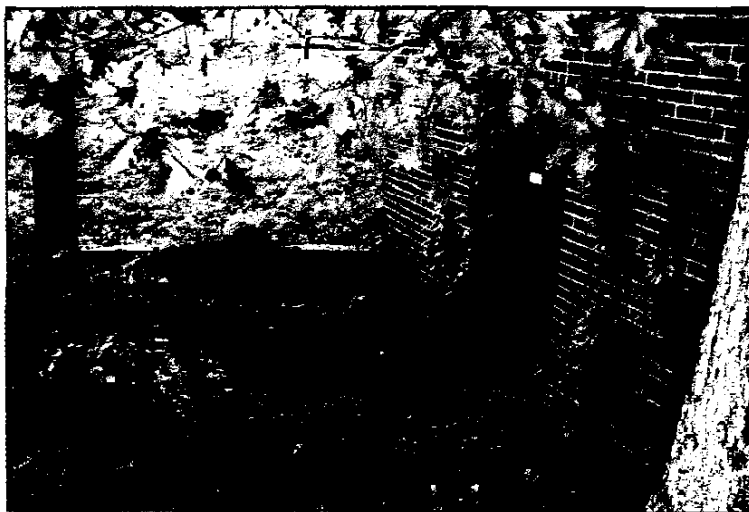
itary services, and also can be accessed at [www.acq.osd.mil/ie/utilities/privatization.htm](http://www.acq.osd.mil/ie/utilities/privatization.htm), DOD's Utilities and Energy Web site.

The department also has strengthened the UPP in consultation with various utility industry representatives. The result is a program that encourages broad industry participation, while maintaining fairness among regulated and unregulated investment owned utilities, municipalities and cooperatives.

### Revised Guidance

The new guidance clarifies that the successful offeror will be selected on the basis of best value. In the past, there existed wide disparities in the evaluation schemes for privatization awards. Some viewed the issue as a Firm Fixed Price Sealed Bid model; e.g., the low bid wins. That best value is now preferred; it benefits the private sector because the award is based not on price alone, but more broadly on technical and business considerations. The best value approach allows offerors to write proposals on familiar ter-

**More than 1,300 DOD utility systems will be evaluated for privatization in the next two years.**



Photos courtesy of Archimede Associates



DOD's new roadmap is expected to speed privatization of its utilities.

rain and leverage their technical expertise.

To ensure an "apples to apples" comparison of long-term costs and benefits, DOD and BearingPoint (formerly KPMG Consulting) developed the Utilities Privatization Economic Analysis Support Tool (UPEAST). It provides a framework for collecting the correct types of data and making a comprehensive comparison based on net present value calculations. The services have taken steps to improve the accuracy of cost estimates to meet the specification requirements. As well, industry's use of the features of UPEAST may improve their proposals. The guidance and UPEAST can be downloaded from [www.acq.osd.mil/ie/utilities/privatization.htm](http://www.acq.osd.mil/ie/utilities/privatization.htm), DOD's Utilities Privatization Web site.

### Long-Term Partnerships

A key aspect of the Utilities Privatization Program is its emphasis on a long-term partnership. The initial utility service contract may be 50 years. The services will determine the length of the utility service contract after considering the period of time required by the offeror to amortize its investment and upgrade the existing system.

Because significant capital may be required to acquire, renovate or upgrade the utility systems conveyed by the services, the utility provider must be able to amortize the investment costs over the life of the utility system. On April 15, 2002, the Director of Defense Procurement authorized a class deviation to the Federal Acquisition Regulations (FAR) allowing the contractor to recover interest costs on capital expenditures.

### Risk Management

The Army and Air Force recently added flexibility to their solicitations for utilities privatization RFPs. Industry has responded positively. An example of the new flexibility is the structure of most proposals. When multiple systems are included in an RFP, offerors may make proposals on individual systems, multiple systems or any combination of the entire package. This allows offerors to match systems with their expertise and reduces the complexity of proposals. This also may open the market to smaller utilities. Most Navy RFPs earlier allowed offerors significant latitude to define the business case.

The time allowed for due diligence has been increased. Given more time, offerors can now better price their pro-

posals due to having more information. As well, most new RFPs will reduce the costs of due diligence because they will be based only on the best available technical data on the utility system provided in the RFP. By reducing discrepancies among offerors' observations and assumptions, this process ensures that each proposal is based and evaluated on the same information. Once the best value proposal is selected, the offeror is allowed to conduct further due diligence and to make any appropriate adjustments. When a negotiated price is agreed upon, it is compared to the government's estimate of the costs and benefits of retaining ownership. Thus, only the offeror with the greatest chance of award must make the additional investment of a full due diligence effort.

The services also have made strides in addressing the treatment of liability risks that may transfer with ownership of utility systems. For example, the risk of failure of underground system elements (necessitating replacement) is difficult to estimate. The new guidance may help mitigate this kind of risk by acknowledging that under some circumstances, lease-to-purchase deals may be appropriate. This allows phasing-in ownership, reducing unquantifiable risk.

### Seeking Industry Input

Even as the services solicit proposals, they continue to seek constructive feedback from industry. Send questions, concerns and observations by e-mail to Capt. Rick Marrs via [webmaster@osd.mil](mailto:webmaster@osd.mil). Issues also will be addressed at the 2003 Energy Workshop and Exposition, August 17-20, 2003, in Lake Buena Vista, Fla., sponsored by DOE, DOD and GSA.

DOD seeks to use competitive procedures and solicit maximum participation from industry through the widespread distribution of utilities privatization opportunities. The main tool for advertising is the government-wide point of entry that can be accessed at [www.fedbizopps.gov](http://www.fedbizopps.gov).

### Conclusion

Privatization of DOD utility systems proved to be more challenging in execution than in concept. A host of lessons were learned from unanticipated issues that slowed execution. The recent guidance resolved many open issues and provided a much-needed roadmap for privatization decision-making. Industry representatives have helped DOD structure its Utilities Privatization Program to lower or remove many barriers to private sector participation. With solid communication with the services and greater understanding of risks among all, utility service providers can now complete the required investments, while making a reasonable profit.

TIME

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# Commercial vs. Federal UTILITY PRACTICES

*Some federal utilities commonly avoid commercial practices because they are adverse to risk.*

*DOD's Utilities Privatization Program has brought differences to the forefront.*

By John M. Shrewsbury, P.E., CEC, and Tom Thome

If you could save 13 percent on utilities operating costs in the first year of implementing commercial standards, would you? We think most federal utilities operators would say "yes," but in most cases, the costs are tied to management decisions and labor agreements that prevent such changes. When it comes to the differences in commercial versus federal utility standards, it is all about maintenance minimums, procedures and specified system features.

Using commercial standards, our company achieved 13 percent savings, on an average, for seven of our large commercial clients, saving them millions of dollars. Some federal facilities commonly avoid commercial standards because they are adverse to risk. The DOD's Utilities Privatization Program has brought differences in standards to the forefront.

When confronted with costs of operating a utility, several factors contribute to the total cost. Typically the major cost is labor. The labor required to operate a system is based on several requirements including the basic numbers for immediate response to an unscheduled outage, the numbers needed for system readings, the numbers needed to control a system, the number of shifts required, the requirements per shift, and most important the numbers needed to perform the various types of maintenance on the system. As a result of implementing commercial best practices and High Performance Work Teams at one client's facility, we have documented reductions of \$30 million (23 percent) and over 125 personnel.

## High Performance Work Teams

Some aspects of our High Performance Work Teams include:

- **Multi-functionality.** Each function needed to provide the product day-to-day is designed as part of the team. This decreases the chain of command, improves efficiency in all aspects of managing and reduces misunderstandings among third parties. Consequently, information is considered upon initial discussion, meaning better and faster decisions and creating a more agile team.

- Team meetings/decisions include engineers, mechanics, operators, work planners and schedulers versus those that include only those in one function.

- Design authority functions are the responsibility of the team engineer, not of a functional engineering team.

- Organizational alignment is via product team versus functionally aligned teams.

- **Cross-functionality.** All positions go beyond their functional job descriptions. This improves effectiveness and efficiency by creating more flexibility within the team. Moreover, all team members are expected to perform managerial tasks (e.g., inputs to recommendations, decisions on budget impacting issues, business plans, schedule works, and personnel coverage). In addition, they are expected to do the following:

- Provide technical support (e.g., recommend design changes, mark up drawings, contact vendors).

- Manage the day-to-day operation of the team (e.g., mechanics and operators plan, prioritize and schedule work, mechanics troubleshoot operating problems and make process adjustments),

- Be trained in areas outside their primary function. (e.g., mechanics qualify on operating, operators perform PM and minor maintenance, engineers perform operating functions),

- And provide team leadership functions (e.g., facilitate meetings, lead subgroup activities, train other team members, provide input to department programmatic planning and execution).

Consequently, the number of personnel needed to perform a task decreases (e.g., it takes two people to change an equalization basin lift pump versus 12). Similarly, to overhaul compressors and pumps takes three people working cross-functionally versus 10 working mono-functionally. Finally, because operators and mechanics are on the same team, planning and scheduling is performed by the same person, resulting in a 75 percent lower support-to-mechanic ratio.

## Maintenance

Preventative "break-down" maintenance is probably the most significant daily cost of operating a utility system. Preventative maintenance can be based on time intervals, either preset schedules regardless of the amount of actual operations, or preset actual hours of operations. When to replace an item receives a lot of attention in better-managed utility sys-

tems. And rightly so, considering that the frequency equates to needed manpower to accomplish the maintenance, and manpower equates to cost of operating the system, not counting the manpower for creating the planning and logistics in accomplishing the maintenance. Combined, this can be very manpower intensive.

Preventative maintenance's prime purpose is to prevent "break-downs" of the utility system, but the concept of break-down maintenance is also a method to reduce day-to-day costs. Allowing selected pieces of equipment to break-down before maintaining them is a balancing act between day-to-day maintenance costs and the costs related to allowing a piece of equipment to fail before addressing its maintenance. Obviously, the failure approach must be weighed in terms of both cost and operational impact.

Operational impact is a critical factor in deciding whether to use break-down maintenance. Such maintenance might actually have a much higher impact than maintenance cost. Careful analysis and selection of the proper parts of a utility system to which one applies break-down maintenance can reduce overall operating costs, and should not be dismissed as an "unusable" management philosophy.

The concept of "predictive failure" is a management tool that is receiving more and more attention. We see this in many cars today via sensor technology and the educated prediction of expected failure. A good maintenance manager will apply this approach by working with manufacturers to better analyze pieces of equipment in a system to ensure that the predicted failure period is as tightly predicted as possible. The experience of the maintenance team with their equipment and with the manufacturers of the equipment plays into this as well. Their collaboration can be melded into honing the time of predicted failure, often in terms of hours of operation, and level of maintenance.

Both preventative and break-down maintenance can play a part in describing commercial versus federal standards for operating a utility system. No approach by itself can fit every sys-

tems management requirement and thus provide reliable and efficient utilities service. Every user of a utility system most values reliability and lower cost for the service; the primary goal is giving the user what they want. Careful, but risk-tolerant management can lower the utilities cost without significantly jeopardizing service and the users operational needs.

Federal utility system design specifications were based on common practice and did not necessarily mirror industry use. "Federal enclaves" were left to their own economic choices about the design and upgrading of their systems. Consequently, practices implemented by the commercial sector for improved operations and safety, as code and practice changes occurred, were slow to be accepted by the federal sector. The extreme bureaucratic process for funding utility system improvements often made funding such changes nearly impossible. This is best highlighted by the government's Base Realignment and Closure (BRAC) program. Local utility companies were reluctant, if not stubbornly opposed, to buying a utility system that did not conform to current industry codes, standards and practices.

## Conclusion

A utility company executive said the commercial standard was a "combination of written national code, local practice, and unwritten operation rules." Consequently, DOD has had to practically give away these systems to local utilities or to "Local Reuse Authorities." The differences in commercial versus federal standards are clearly those of labor management, maintenance philosophy, system safety design, and more modern tools for managing utility systems to increase safety and reliability and to lower costs. TME

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## How Good Utility Management Can Work

- Line-management decreased in utilities by 84% and field maintenance by 54%. This was due to putting day-to-day decision making with the team not with a position.
- Management's span of control in our teams is 15 vs. 6 in the base-year.
- Reduced operating procedures by 90%; procedure development is built into the maintenance teams as an ancillary duty; the department has only two procedure writers who support more than 400 people.
- Reduced 30-minute shift turnover requirement to 12 minutes.
- Used vendor O&M manuals vice federal procedures. O&M manuals used "As-Is" (i.e. not validated step-by-step prior to use).
- Relied on "On-the-Job" training versus formal classroom training; training is built into the maintenance

teams as an ancillary duty; the department has two trainers for some 400 associates.

- Operators responsible for the process make decisions vs. the first line manager.
- Reduced monthly salary coverage on shifts.
- Operators respond to out-of-limit readings without direction from first line manager
- Operators are responsible for response to emergencies.
- Eliminated requirements for system alignment checklists.
- Reduced operator "roundsheet" readings by 50%.
- Reduced the number of "Use Every Time" (UET) procedures by 90%; converted a 58-page UET procedure for start up to 2-pages.
- Operators responsible for the process are reviewing "roundsheet" data for trends versus the first line manager.
- Eliminated requirement for operations manager to review logbook daily, and for a formal watchbill; teams responsible to ensure job functions are covered.